

# SEQUENCE LISTING

<110> Huang, Ziwei  
Wang, Jialun  
Zhang, Zhijia  
Shan, Simei  
Lu, Zhixian

<120> Enhancement of Peptide Cellular Uptake

<130> 8321-68

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<150> 60/128,202

<151> 1999-04-07

<160> 58

<170> PatentIn Ver. 2.1

<210> 1

<211> 26

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

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Asn Leu Trp Ala Ala Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met Ser  
1 5 10 15

Asp Glu Phe Glu Gly Ser Phe Lys Gly Leu  
20 25

<210> 2

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily

polypeptide

<400> 2

Asn Leu Trp Ala Ala Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met Ser  
1 5 10 15

Asp Glu Phe Glu Gly Ser Phe Lys Gly Leu  
20 25

<210> 3

<211> 27

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 3

Asn Leu Trp Ala Ala Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met Ser  
1 5 10 15

Asp Glu Phe Glu Gly Ser Phe Lys Gly Leu Pro  
20 25

<210> 4

<211> 27

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 4

Pro Ser Ser Thr Met Gly Gln Val Gly Arg Gln Leu Ala Ile Ile Gly  
1 5 10 15

Asp Asp Ile Asn Arg Arg Tyr Asp Ser Glu Phe  
20 25

<210> 5

<211> 27

<212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 5  
 Pro Asn Ser Ile Leu Gly Gln Val Gly Arg Gln Leu Ala Leu Ile Gly  
 1 5 10 15

Asp Asp Ile Asn Arg Arg Tyr Asp Thr Glu Phe  
 20 25

<210> 6  
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<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
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<400> 6  
 Gln Asp Ala Ser Thr Lys Lys Leu Ser Glu Cys Leu Lys Arg Ile Gly  
 1 5 10 15

Asp Glu Leu Asp Ser Asn Met Glu Leu Gln Arg  
 20 25

<210> 7  
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<220>  
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<400> 7  
 Gln Asp Ala Ser Thr Lys Lys Leu Ser Glu Cys Leu Arg Arg Ile Gly  
 1 5 10 15

Asp Glu Leu Asp Ser Asn Met Glu Leu Gln Arg  
20 25

<210> 8  
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<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 8  
Leu Arg Pro Ala Pro Pro Gly Val His Leu Ala Leu Arg Gln Ala Gly  
1 5 10 15

Asp Glu Phe Ser Arg Arg Tyr Gln Arg Asp Phe  
20 25

<210> 9  
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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 9  
Leu Ser Pro Val Pro Pro Val Val His Leu Thr Leu Arg Gln Ala Gly  
1 5 10 15

Asp Asp Phe Ser Arg Arg Tyr Arg Arg Asp Phe  
20 25

<210> 10  
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segment from BH3 domain of a Bcl-2 superfamily

polypeptide

<400> 10

Leu Ser Pro Val Pro Pro Cys Val His Leu Thr Leu Arg Arg Ala Gly  
1 5 10 15

Asp Asp Phe Ser Arg Arg Tyr Arg Arg Asp Phe  
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<210> 11

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 11

Leu Ser Pro Val Pro Pro Val Val His Leu Thr Leu Arg Arg Ala Gly  
1 5 10 15

Asp Asp Phe Ser Arg Arg Tyr Arg Arg Asp Phe  
20 25

<210> 12

<211> 27

<212> PRT

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 12

Glu Ile Val Arg Ala Ser Asp Val Arg Gln Ala Leu Arg Asp Ala Gly  
1 5 10 15

Asp Glu Phe Glu Leu Arg Tyr Arg Arg Ala Phe  
20 25

<210> 13

<211> 27

<212> PRT  
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segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 13  
Glu Val Ile Pro Met Ala Ala Val Lys Gln Ala Leu Arg Glu Ala Gly  
1 5 10 15

Asp Glu Phe Glu Leu Arg Tyr Arg Arg Ala Phe  
20 25

<210> 14  
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<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 14  
Gln Glu Asp Ile Ile Arg Asn Ile Ala Arg His Leu Ala Gln Val Gly  
1 5 10 15

Asp Ser Met Asp Arg Ser Ile Pro Pro Gly Leu  
20 25

<210> 15  
<211> 27  
<212> PRT  
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<220>  
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segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 15  
Gln Glu Glu Ile Ile His Asn Ile Ala Arg His Leu Ala Gln Ile Gly  
1 5 10 15

Asp Glu Met Asp His Asn Ile Gln Pro Thr Leu  
20 25

<210> 16  
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<220>  
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segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 16  
Cys Met Glu Gly Ser Asp Ala Leu Ala Leu Arg Leu Ala Cys Ile Gly  
1 5 10 15

Asp Glu Met Asp Val Ser Leu Arg Ala Pro Arg  
20 25

<210> 17  
<211> 27  
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<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 17  
Arg Ser Ser Ala Ala Gln Leu Thr Ala Ala Arg Leu Lys Ala Leu Gly  
1 5 10 15

Asp Glu Leu His Gln Arg Thr Met Trp Arg Arg  
20 25

<210> 18  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily

polypeptide

<400> 18

Arg Trp Ala Ala Ala Gln Val Thr Ala Leu Arg Leu Gln Ala Leu Gly  
1 5 10 15

Asp Glu Leu His Arg Arg Ala Met Arg Arg Arg  
20 25

<210> 19

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 19

Asp Met Arg Pro Glu Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly  
1 5 10 15

Asp Glu Phe Asn Ala Tyr Tyr Ala Arg Arg Val  
20 25

<210> 20

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 20

Leu Gln Met Leu Lys Gly Glu Lys Leu Gln Val Leu Lys Gly Thr Gly  
1 5 10 15

Asp Trp Trp Leu Ala Arg Ser Leu Val Thr Gly  
20 25

<210> 21

<211> 27



<212> PRT

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<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 21

Pro Gly Gly Arg Leu Ala Glu Val Cys Thr Val Leu Leu Arg Leu Gly  
1 5 10 15

Asp Glu Leu Glu Gln Ile Arg Pro Ser Val Tyr  
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<210> 22

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 22

Asp Ile Glu Arg Arg Lys Glu Val Glu Ser Ile Leu Lys Lys Asn Ser  
1 5 10 15

Asp Trp Ile Trp Asp Trp Ser Ser Arg Pro Glu  
20 25

<210> 23

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 23

Ile Ser Ser Ile Gly Tyr Glu Ile Gly Ser Lys Leu Ala Ala Met Cys  
1 5 10 15

Asp Asp Phe Asp Ala Gln Met Met Ser Tyr Ser  
 20 25

<210> 24  
 <211> 27  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 24  
 Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala Ala Gly  
 1 5 10 15

Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe  
 20 25

<210> 25  
 <211> 27  
 <212> PRT  
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<220>  
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 polypeptide

<400> 25  
 Ser Gly Ala Thr Ser Arg Lys Ala Leu Glu Thr Leu Arg Arg Val Gly  
 1 5 10 15

Asp Gly Val Gln Arg Asn His Glu Thr Val Phe  
 20 25

<210> 26  
 <211> 27  
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<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily

polypeptide

<400> 26

Ala Ala Leu Pro Pro Ser Ala Thr Ala Ala Glu Leu Arg Arg Ala Ala  
1 5 10 15

Ala Glu Leu Glu Arg Arg Glu Arg Pro Phe Phe  
20 25

<210> 27

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 27

Met Phe Asp Val Glu Met His Thr Ser Arg Asp His Ser Ser Gln Ser  
1 5 10 15

Glu Glu Glu Val Val Glu Gly Glu Lys Glu Val  
20 25

<210> 28

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 28

Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met Ser Asp Glu Phe Glu Gly  
1 5 10 15

<210> 29

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 29

Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met Ser Asp Glu Phe Val Asp  
1 5 10 15

<210> 30

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 30

Gly Gln Val Gly Arg Gln Leu Ala Ile Ile Gly Asp Asp Ile Asn Arg  
1 5 10 15

<210> 31

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 31

Gly Gln Val Gly Arg Gln Leu Ala Leu Ile Gly Asp Asp Ile Asn Arg  
1 5 10 15

<210> 32

<211> 16

<212> PRT

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<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily

polypeptide

<400> 32

Lys Lys Leu Ser Glu Cys Leu Lys Arg Ile Gly Asp Glu Leu Asp Ser  
1 5 10 15

<210> 33

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 33

Lys Lys Leu Ser Glu Cys Leu Arg Arg Ile Gly Asp Glu Leu Asp Ser  
1 5 10 15

<210> 34

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 34

Lys Lys Leu Ser Glu Cys Leu Lys Arg Ile Arg Asp Glu Leu Asp Ser  
1 5 10 15

<210> 35

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 35

Pro Gly Val His Leu Ala Leu Arg Gln Ala Gly Asp Glu Phe Ser Arg  
 1 5 10 15

<210> 36

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 36

Pro Val Val His Leu Thr Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg  
 1 5 10 15

<210> 37

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 37

Pro Cys Val His Leu Thr Leu Arg Arg Ala Gly Asp Asp Phe Ser Arg  
 1 5 10 15

<210> 38

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 38

Pro Val Val His Leu Thr Leu Arg Arg Ala Gly Asp Asp Phe Ser Arg  
 1 5 10 15

<210> 39  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Description of  
Artificial Sequence : Peptide segment from BH3  
domain of a Bcl-2 superfamily polypeptide

<400> 39  
Ser Asp Val Arg Gln Ala Leu Arg Asp Ala Gly Asp Glu Phe Glu Leu  
1 5 10 15

<210> 40  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 40  
Ala Ala Val Lys Gln Ala Leu Arg Glu Ala Gly Asp Glu Phe Glu Leu  
1 5 10 15

<210> 41  
<211> 16  
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<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 41  
Arg Asn Ile Ala Arg His Leu Ala Gln Val Gly Asp Ser Met Asp Arg  
1 5 10 15

<210> 42  
<211> 16

<212> PRT  
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<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 42

His Asn Ile Ala Arg His Leu Ala Gln Ile Gly Asp Glu Met Asp His  
1 5 10 15

<210> 43

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 43

Asp Ala Leu Ala Leu Arg Leu Ala Cys Ile Gly Asp Glu Met Asp Val  
1 5 10 15

<210> 44

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 44

Gln Leu Thr Ala Ala Arg Leu Lys Ala Leu Gly Asp Glu Leu His Gln  
1 5 10 15

<210> 45

<211> 16

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 45

Gln Val Thr Ala Leu Arg Leu Gln Ala Leu Gly Asp Glu Leu His Arg  
1 5 10 15

<210> 46

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 46

Ile Trp Ile Ala Gln Glu Leu Arg Arg Ile Gly Asp Glu Phe Asn Ala  
1 5 10 15

<210> 47

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 47

Gly Glu Lys Leu Gln Val Leu Lys Gly Thr Gly Asp Trp Trp Leu Ala  
1 5 10 15

<210> 48

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily

polypeptide

<400> 48

Ala Glu Val Cys Thr Val Leu Leu Arg Leu Gly Asp Glu Leu Glu Gln  
1 5 10 15

<210> 49

<211> 16

<212> PRT

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<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 49

Lys Glu Val Glu Ser Ile Leu Lys Lys Asn Ser Asp Trp Ile Trp Asp  
1 5 10 15

<210> 50

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 50

Tyr Glu Ile Gly Ser Lys Leu Ala Ala Met Cys Asp Asp Phe Asp Ala  
1 5 10 15

<210> 51

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 51

Asp Pro Leu His Gln Ala Met Arg Ala Ala Gly Asp Glu Phe Glu Thr  
 1 5 10 15

<210> 52  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 52  
 Arg Lys Ala Leu Glu Thr Leu Arg Arg Val Gly Asp Gly Val Gln Arg  
 1 5 10 15

<210> 53  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 53  
 Ser Ala Thr Ala Ala Glu Leu Arg Arg Ala Ala Ala Glu Leu Glu Arg  
 1 5 10 15

<210> 54  
 <211> 16  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Peptide  
 segment from BH3 domain of a Bcl-2 superfamily  
 polypeptide

<400> 54  
 Met His Thr Ser Arg Asp His Ser Ser Gln Ser Glu Glu Glu Val Val  
 1 5 10 15

<210> 55  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Peptide segment  
from BH3 domain of a Bcl-2 superfamily polypeptide

<400> 55  
Lys Asn Leu Trp Ala Ala Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met  
1 5 10 15  
Ser Asp Glu Phe Glu Gly Ser Phe Lys Gly Leu Lys  
20 25

<210> 56  
<211> 27  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 56  
Lys Asn Leu Trp Ala Ala Gln Arg Tyr Gly Arg Glu Leu Arg Arg Met  
1 5 10 15  
Ser Asp Glu Phe Glu Gly Ser Phe Lys Gly Leu  
20 25

<210> 57  
<211> 17  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Peptide  
segment from BH3 domain of a Bcl-2 superfamily  
polypeptide

<400> 57  
Lys Gly Gln Val Gly Arg Gln Leu Ala Ile Ile Gly Asp Asp Ile Asn

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5

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15

Arg

<210> 58

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Leu to Ala  
mutant of SEQ ID NO:30

<400> 58

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10

15

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